Docket No. 24180-124-005 **PATENT**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re U.S. Patent Application of:	Examiner: Sandra M. Nolan
Applicant: RICHARDS *et al.*	Group Art Unit: 1772
Serial No.: 10/046,500	
Filed: October 24, 2001	Certificate of Mailing: I, hereby certify that this correspondence (along with any documents referred to as attached or enclosed) is being deposited with the US Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on November 23, 2004.
For: POLYPROPYLENE CONTAINER AND PROCESS FOR MAKING THE SAME WITH BARRIER PROTECTION	Matthew E. Leno, Reg. No. 41,149

THIRD
37 C.F.R. § 1.132
DECLARATION OF DR. ROBERT KNOLL

Commissioner of Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Dear Sir:

I, the undersigned Robert Knoll, Ph.D., declare the following:

1. I am a co-inventor of the present invention.
2. I have received a Bachelor of Science degree in Nuclear Engineering (1973), a Masters of Science degree in Nuclear Engineering (1974), another Masters of Science degree in Materials Science (1978), and a Ph.D. in Engineering Physics/Nuclear Engineering (1981), all from the University of Wisconsin at Madison on the dates respectively indicated.
3. I have over twenty years of experience as an innovative engineer and applied materials scientist. My experience as a materials scientist includes substantial research and analysis of polymers and polymer processing. For example, in my approximately eight years as a senior technical staff member at Johnson Controls, Inc., I conducted research and development

projects related to injection and biaxial large-strain deformation of polyethylene terephthalate (PET) and other polymers. In the over seven years I have spent researching material development Pechiney Plastic Packaging, Inc., I have conducted research and development projects including development, analysis and implementation of polymers into production lines to improve product performance and manufacturing efficiency, including blow molding of polypropylene (PP), polyethylene terephthalate (PET), nylons and other polymers.

4. I have reviewed the August 27, 2004 Office Action ("Office Action") in the above-identified patent application, as well as U.S. Patent No. 4,131,666 to Agrawal et al. ("Agrawal") upon which that Office Action relies to reject the pending claims 25-41.

5. In the Office Action, I paid particular attention to the rejection of claims 38-41 as both anticipated by and obvious in light of Agrawal. I disagree with the statements made in support of these rejections. Agrawal does not teach or make obvious the invention claimed in claims 38-41 of this application. I have not been asked to consider the rejections of claims 25-37.

6. I consider myself one skilled in the art of blowmolding of PP, PET, nylons and other materials.

7. Agrawal provides no teaching whatsoever of polypropylene or any suggestion of substituting polypropylene for the nitrile material of Agrawal.

8. Although other objects of the invention are also stated in the Summary Of The Invention without specific reference to nitrile-based materials, the discussion of nitrile-based preforms in the Background sets the stage and directs one of ordinary skill in the art to focus on the problems of preforms constructed of nitrile-based materials.

9. One of ordinary skill in the art would understand that Agrawal is specifically directed to resolving problems of reheat stretch blow molding preforms of nitrile-based materials.

10. It makes sense that Agrawal focuses on nitrile-based materials because polypropylene does not suffer from the frozen strains that Agrawal describes as causing shrinkage problems in nitrile-based materials. One of ordinary skill in the art understands that polypropylene typically has a glass transition temperature of about -3.2°C such that any strain induced by injection molding would be annealed at room temperature. Since any injection molding induced strain would become annealed by the time the preform reaches a reheating process for blow molding, Agrawal is totally irrelevant to polypropylene preforms. Thus, one of ordinary skill in the art interested in making polypropylene preforms would not seek out the solution offered by Agrawal. Moreover, one of ordinary skill in the art reading Agrawal would not consider its teachings relevant to polypropylene preforms. Accordingly, one of ordinary skill in the art would not have found it obvious to construct the preform of Agrawal from polypropylene. To do so would go directly against Agrawal's disclosure and would venture outside of the scope of Agrawal's invention – providing nitrile preforms with uniform wall thickness by relieving injection molding induced strain.

11. Moreover, even if Agrawal expressly or impliedly stated (which it does not) that polypropylene could replace Agrawal's nitrile-based material, Agrawal fails to provide any teaching of the modifications to Agrawal's preforms, containers and/or stretch ratios necessary to compensate for the differences in processing and behavior characteristics between nitrile-based materials and polypropylene. To be sure, Agrawal does not state that no alterations are necessary to its nitrile-based preforms, containers and/or stretch ratios to compensate for those differences in processing and behavior characteristics. One of ordinary skill in the art is left without instruction on how to construct Agrawal's preform and container from polypropylene.

12. One of ordinary skill in the art would not have understood Agrawal's detailed description of the nitrile-based preforms and containers, and the processing to construct the latter out of the former, to apply identically to an embodiment substituting polypropylene for Agrawal's nitrile-based material. Agrawal's disclosure is completely devoid of any information teaching how to manufacture a preform and container from polypropylene. What one of ordinary skill in the art would understand from Agrawal is that because the characteristics of polypropylene differ significantly from those of nitrile-based materials, the dimensional parameters and stretch ratios of Agrawal's nitrile preforms and containers would not apply identically to polypropylene embodiments. For example, polyacrylonitrile (Agrawal's preferred nitrile material) differs from polypropylene in at least the following ways:

Property, units	Polyacrylonitrile	Polypropylene
Density, gram/cc	1.15 – 1.19	0.90
Melt Temperature, °C	250 - 320	162
Crystallization Temp., °C	95 - 100	140
Glass Transition Temp., °C	85 – 95 (dry)	- 3.2
H2O Absorption, %	1.0 – 1.5	0.03
Heat Capacity, J/mol/K @ 23°C	69	77
Thermal Decomposition T °C	250-320	> 400

Agrawal details nothing about modifications necessary to accommodate these differences in material properties to achieve the objectives of the invention.

13. Nowhere does Agrawal state, or even suggest, that polypropylene may be substituted for the nitrile materials. Nowhere does Agrawal state, or even suggest, that polypropylene may be substituted for the nitrile materials without any alteration to the configuration of the nitrile preform and/or container to accommodate the differences in the materials. To do so would go beyond the scope of Agrawal's invention.

14. One of ordinary skill in the art would not have considered it obvious to replace Agrawal's nitrile-based materials with polypropylene without modifying the physical characteristics of the preform and container, such as wall thicknesses and stretch ratios, to accommodate the differences between Agrawal's nitrile-based materials and polypropylene.

15. All statements made herein of my own knowledge are true and all statements made on information and belief are believed to be true; and further these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both under Section 1001 of Title 18 of the United States Code, and such willful false statements may jeopardize the validity of any patent confirmed hereon.

Date: Nov. 23, 2004

Robt W. Knoll, Ph. D.

Robert Knoll, Ph.D.

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